

UNCLASSIFIED

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>								DATE <b>February 2000</b>	
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>					
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	6,042	39,658	50,787	48,776	17,842	9,678	24,141	Continuing	TBD
674370    Advanced Weapons Integrations (AWI)	3,320	0	0	0	0	0	0	0	9,393
674401    Air Force Mission Support System (AFMSS)	2,722	2,669	0	0	0	0	0	0	14,400
674810    Avionics Midlife Improvement (AMI)	0	29,033	38,787	31,276	17,842	0	0	0	134,400
674875    Situational Awareness Defensive Improvement	0	7,956	12,000	17,500	0	0	0	0	71,690
674876    B-52 Global Air Traffic Management (GATM)	0	0	0	0	0	9,678	24,141	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

Note: RDT&E articles are not separately priced

(U)    **A. Mission Description**  
The B-52 is the primary nuclear roled bomber in the USAF inventory. It provides the only Air Launch Cruise Missile carriage in the USAF. The B-52 also provides theater CINCs with a long range strike capability. The B-52 is undergoing a Conventional Enhancement Modification which allows it to carry MIL-STD 1760 weapons. The current service life of the aircraft extends to 2040. The Advanced Weapons Integration (AWI) program supports the conventional enhancement of the B-52 through the addition of the Wind Corrected Munitions Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW), and the Joint Air-to-Surface Stand-off Missile (JASSM). The Air Force Mission Support System supports the Air Force movement of all mission planning to a common system. Electronic Countermeasures Improvement program improves supportability, increases memory, allows reprogrammability, and adds a new display for improved situational awareness and system control. The B-52's Avionics Midlife Improvement program is a new start that will replace insupportable mission critical parts of the Offensive Avionics System that control navigation and weapons delivery on the B-52. The B-52 program management is provided by Air Force Material Command's Oklahoma Air Logistics Center. The prime contractor for these projects is Boeing, McDonnell Defense in Wichita Kansas.

(U)    **B. Budget Activity Justification**  
This program is in budget activity 7 - Operational System Development, because it supports a currently operational system.

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<p>(U) <b><u>C. Program Change Summary (\$ in Thousands)</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 55%;"></th> <th style="width: 10%; text-align: center;"><u>FY 1999</u></th> <th style="width: 10%; text-align: center;"><u>FY 2000</u></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 15%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY 2000 PBR)</td> <td style="text-align: center;">6,418</td> <td style="text-align: center;">32,139</td> <td style="text-align: center;">39,240</td> <td style="text-align: center;">31,902</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">6,436</td> <td style="text-align: center;">40,139</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: center;">-161</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: center;">-199</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td></td> <td style="text-align: center;">0</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">f. Other</td> <td style="text-align: center;">-34</td> <td style="text-align: center;">-15</td> <td></td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2000 PBR</td> <td></td> <td style="text-align: center;">-466</td> <td style="text-align: center;">11,547</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2001 PBR</td> <td style="text-align: center;">6,042</td> <td style="text-align: center;">39,658</td> <td style="text-align: center;">50,787</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td colspan="5" style="padding-left: 20px;">\$466K reduction in FY00</td> </tr> <tr> <td colspan="5" style="padding: 10px;"> <p>(U) <b><u>Significant Program Changes:</u></b></p> <p style="padding-left: 40px;">(U) One new project initiated with this submission: Avionics Midlife Improvement (AMI) starting in FY00. See individual project description (Exhibits R-2/R-3) for details.</p> <p style="padding-left: 40px;">(U) Actual number to SPO \$5.986 total FY99 (\$3.433 AWI and \$2.553 for AFMSS)</p> <p style="padding-left: 40px;">(U) FY01 number includes \$12.0M for the Situational Awareness Defensive Improvement (SADI) program - program reduced by \$453K in support of other AF priorities. The EMD schedule will lengthen by at least three months.</p> </td> </tr> </tbody> </table>					<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 2000 PBR)	6,418	32,139	39,240	31,902	(U) Appropriated Value	6,436	40,139			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-161				b. Small Business Innovative Research	-199				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions		0			f. Other	-34	-15		TBD	(U) Adjustments to Budget Years Since FY 2000 PBR		-466	11,547		(U) Current Budget Submit/FY 2001 PBR	6,042	39,658	50,787	TBD	\$466K reduction in FY00					<p>(U) <b><u>Significant Program Changes:</u></b></p> <p style="padding-left: 40px;">(U) One new project initiated with this submission: Avionics Midlife Improvement (AMI) starting in FY00. See individual project description (Exhibits R-2/R-3) for details.</p> <p style="padding-left: 40px;">(U) Actual number to SPO \$5.986 total FY99 (\$3.433 AWI and \$2.553 for AFMSS)</p> <p style="padding-left: 40px;">(U) FY01 number includes \$12.0M for the Situational Awareness Defensive Improvement (SADI) program - program reduced by \$453K in support of other AF priorities. The EMD schedule will lengthen by at least three months.</p>				
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE <b>February 2000</b>	
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>				PROJECT <b>674370</b>	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
674370    Advanced Weapons Integrations (AWI)	3,320	0	0	0	0	0	0	0	9,393
<p>(U)    <b><u>A. Mission Description</u></b></p> <p>The requirement exists for the integration of near precision and precision guided MIL-STD 1760 weapons on the B-52. This includes the Wind Corrected Munitions Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW), and the Joint-Air-to-Surface Stand-off Missile (JASSM). The B-52 is designated as the threshold bomber test platform for WCMD, JDAM, and JASSM with the objective of meeting aircraft integration and weapon testing requirements. To provide complete understanding of the program and its funding, the following schedule information in section C will reflect the money received from the WCMD, JDAM, and JASSM program elements for weapons integration on the B-52.</p> <p>(U)    <b><u>FY 1999 (\$ in Thousands)</u></b></p> <p>(U)    \$3,020                      Continued Software development for JSOW and JASSM</p> <p>(U)    \$300                        Flight/Ground Testing</p> <p>(U)    \$3,320                        Total</p> <p>(U)    <b><u>FY 2000 (\$ in Thousands)</u></b></p> <p>(U)    \$0                              No Activity</p> <p>(U)    \$0                              Total</p> <p>(U)    <b><u>FY 2001 (\$ in Thousands)</u></b></p> <p>(U)    \$0                              No Activity</p> <p>(U)    \$0                              Total</p> <p>(U)    <b><u>B. Project Change Summary</u></b></p> <p>Not applicable</p>									

Project 674370
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Exhibit R-2A (PE 0101113F)

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>								DATE <b>February 2000</b>	
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>				PROJECT <b>674370</b>	
(U) <b><u>C. Other Program Funding Summary (\$ in Thousands)</u></b>									
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Aircraft Procurement (PE 11113F)	671	479	964	250	0			0	2,364
(U) Related Activities									
(U) RDT&E (WCMD - PE 27600F)	0	0	0	0	0	0	0	0	0
(U) RDT&E (JDAM - PE 27583F)	0	0	0	0	0	0	0	0	0
(U) RDT&E (JASSM - PE 27160F)	3,457	6,420	1,775	0	0	0	0	0	11,652
(U) TDT&E (JSOW - PE27324F)	0	250	0	0	0	0	0	0	250
(U) <b><u>D. Acquisition Strategy</u></b>									
The AWI program placed Boeing Military Programs - Wichita Division, on a Cost-Plus-Fixed-Fee contract as the Product Development Organization supported by OC-ALC/LH. Due to a short notice requirement, interface development and initial software requirements definition was accomplished under the B-52 fleet support contract; a time and materials contract. AWI development is in two phases. The first phase supports WCMD and JDAM Stores Management Overlay (SMO) development, interface hardware development and Development Test and Evaluation (DT&E). The second phase supports JSOW and JASSM SMO development and DT&E. Due to the need for early Required Assets Availability and Initial Operational Capability, the Single Acquisition and Management Plan (SAMP) authorized concurrent development of software as the interface hardware (MIL-STD 1760 umbilicals and pylon attachments) transitioned to production. Although, development of SMOs for JSOW and JASSM will continue after the hardware design has been developed, the hardware design will be complete and compatible with all advance weapons.									
(U) <b><u>E. Schedule Profile</u></b>									
	<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>		
	1	2	3	4	1	2	3	4	1
(U) JDAM/WCMD SMO				*	X				
(U) Software/hardware Req DT&E	*			*					
(U) Test Planning	*			*	X				
(U) Technical data development	*								
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## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

February 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

07 - Operational System Development

0101113F B-52 SQUADRONS

674370

(U) E. Schedule Profile Continued

		FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4
(U)	Ground/flight testing		*			X							
(U)	AFMSS module DT&E		*			X	X						
(U)	Program office support		*	*	*	X	X						
(U)	JSOW/JASSM SMO												
(U)	Contractor Interface Development	*	*	*	*	X	X						
(U)	Software/hardware Req DT&E	*	*	*	*	X	X	X	X	X	X		
(U)	Test planning	*	*	*	*	X	X	X	X	X	X	X	X
(U)	Technical data development		*	*	*	X	X						X
(U)	Ground/flight testing			*	*	X	X	X	X	X	X	X	X
(U)	AFMSS module DT&E		*	*	*	X	X	X	X	X	X	X	X
(U)	Program support office	*	*	*	*	X	X	X	X	X	X	X	X

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development					0101113F B-52 SQUADRONS				674370	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					FY 1999		FY 2000		FY 2001	
(U)	Software/hardware requirements				3,014		0		0	
(U)	Test				306					
(U)	Total				3,320		0		0	
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Boeing - Wichita, KS		CPFF	4 Sep 97	5,603	5,603	2,822	2,868	0	0	5,690
88CG/SCCVO		Project Order	13 Mar 96	12	12	10	2	0	0	12
<u>Support and Management Organizations</u>										
OC-ALC/LH		PMA	1 Oct 96	266	266	216	50	0	0	266
OC-ALC/LAS		Project Order	16 Jul 97	1,350	1,350	1,350	0	0	0	1,350
AEDC/DOF		Project Order	3 Jun 97	48	48	48	0	0	0	48
PEO/PMA-201		MIPR		75	75	75		0	0	75
4 Sep 97										
<u>Test and Evaluation Organizations</u>										
419 CTF		Project Order	3/31/99	1,952	1,952	1,552	400			1,952
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>										
Subtotal Product Development					2,832	2,870	0	0	0	5,702
Subtotal Support and Management					1,689	50	0	0	0	1,739
Subtotal Test and Evaluation					1,552	400				1,952
Total Project					6,073	3,320	0	0	0	9,393

Project 674370

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Exhibit R-3 (PE 0101113F)

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## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

February 2000

BUDGET ACTIVITY

**07 - Operational System Development**

PE NUMBER AND TITLE

**0101113F B-52 SQUADRONS**

PROJECT

**674401**

COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
674401 Air Force Mission Support System (AFMSS)	2,722	2,669	0	0	0	0	0	0	14,400

Remark: Actual SPO FY99 dollars recieved = \$2.553.

(U) **A. Mission Description**

B-52 Air Force Mission Support System (AFMSS) was previously funded out of the AFMSS program element prior to FY98. The project develops aircraft/weapons/electronic (A/W/E) countermeasures modules to be used in conjunction with the core software modules to provide a Mission Planning Environment for planning B-52 missions. AFMSS is the replacement system for the current Mission Data Preparation System (MDPS), the legacy system used for B-52 SIOP capability. Block 1 provided the capability to plan conventional gravity missions at the unit level. Block 2 is Y2K compliant and provides the capability to plan JDAM and WCMD missions. It also adds IU/TRS capability. Block 3 adds planning capability for AGM-84 and AGM-86C. Block 4 provides TRICOMS mission data import capability and allows the retirement of MDPS. Plus, it includes capability to plan the AGM-142, JSOW and JASSM. Block 5 will enable migration of the mission planning capability to the Joint Mission Planning System (JMPS).

(U) **FY 1999 (\$ in Thousands)**

(U) \$412 Completed operational test and installation of Block 2 software  
 (U) \$1,125 Initiated Block 4 operational requirements  
 (U) \$1,185 Continued Block 3 operational software  
 (U) \$2,722 Total

(U) **FY 2000 (\$ in Thousands)**

(U) \$569 Initiate Block 5 operational requirements for migration to JMPS  
 (U) \$800 Complete Block 3 operational software test and installation  
 (U) \$1,300 Complete Block 4 operational software test and installation  
 (U) \$2,669 Total

(U) **FY 2001 (\$ in Thousands)**

(U) \$0 No Activity  
 (U) \$0 Total

(U) **B. Project Change Summary**

N/A

Project 674401

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Exhibit R-2A (PE 0101113F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2000		
BUDGET ACTIVITY <b>07 - Operational System Development</b>					PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>					PROJECT <b>674401</b>		
(U) <b><u>C. Other Program Funding Summary (\$ in Thousands)</u></b>												
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>Cost to</u>	<u>Total Cost</u>			
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>				
(U) AF RDT&E												
(U) Other APPN												
(U) <b><u>D. Acquisition Strategy</u></b>												
The AFMSS program is organically conducted at OC-ALC/LAS. Previously funded by the AFMSS program element.												
(U) <b><u>E. Schedule Profile</u></b>												
	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Complete Block 2 development												
(U) Software development Block 3												
(U) Contract award Block 4												
(U) Software development Block 4												
(U) Contract award Block 5												
(U) Software development Block 5												
The B-52 peculiar mission planning software development is accomplished and delivered incrementally. Each work package within a block build is treated as a mini-development with its own analysis, design, and test. The work package are integrated with one another and with the AFMSS core.												



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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
<b>07 - Operational System Development</b>				<b>0101113F B-52 SQUADRONS</b>				<b>674401</b>		
(U) <b><u>A. Project Cost Breakdown (\$ in Thousands)</u></b>										
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>
(U)	Software development					2,630		2,595		
(U)	System Program Office support					92		74		
(U)	Total					2,722		2,669		
(U) <b><u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>										
(U) <b><u>Performing Organizations:</u></b>										
	<u>Contractor or</u>	<u>Contract</u>								
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>					
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>
										<u>Total</u>
	<u>Product Development Organizations</u>									
	Oklahoma ALC/LAS	Project Order	26 Mar 97	10,786	0	5,616	2,630	2,595		0
	<u>Support and Management Organizations</u>									
	OC-ALC/LH	Project Order	Oct 97	0	411	245	92	74		0
	OC-ALC/LAP	Project Order	Jun 97	3,053	0	3,053				0
	<u>Test and Evaluation Organizations</u>									
	419th	DT&E	11 Dec 96	95	0	95				0
(U) <b><u>Government Furnished Property:</u></b>										
		<u>Contract</u>								
		<u>Method/Type</u>	<u>Award or</u>							
	<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>
										<u>Total</u>
	<u>Product Development Property</u>									
	<u>Support and Management Property</u>									
	<u>Test and Evaluation Property</u>									

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2000		
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
<b>07 - Operational System Development</b>		<b>0101113F B-52 SQUADRONS</b>			<b>674401</b>	
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	5,616	2,630	2,595		0	10,841
Subtotal Support and Management	3,298	92	74		0	3,464
Subtotal Test and Evaluation	95				0	95
Total Project	9,009	2,722	2,669		0	14,400

## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE <b>February 2000</b>	
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>				PROJECT <b>674810</b>	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
674810    Avionics Midlife Improvement (AMI)	0	29,033	38,787	31,276	17,842	0	0	66,580	134,400
<p>(U) <b><u>A. Mission Description</u></b>            The current B-52H Offensive Avionics System (OAS) contains several subsystems which must be replaced. The Inertial Navigation System (INS) includes a spinning mass gyro based on 1960's technology which will soon be unsupportable. The Avionics Control Unit (ACU) is an aging computer system with limited processing capability and memory. The Data Transfer Unit Cartridges (DTUCs) are bulky, unreliable and also based on old technology. The AMI program will use existing technology to replace these systems and the associated software to significantly increase OAS reliability, maintainability, and supportability while increasing capability and reducing operating costs.</p> <p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b>            (U) \$0                      No Activity            (U) \$0                      Total</p> <p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b>            (U) \$12,800                  Design and development of Group A Hardware            (U) \$16,233                  Design and development of replacement software            (U) \$29,033                  Total                 \$2,062 OSD and AF withhold</p> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b>            (U) \$37,000                  Design and development of replacement software            (U) \$1,787                    Ground and flight test            (U) \$38,787                  Total</p> <p>(U) <b><u>B. Project Change Summary</u></b>            New start project beginning FY00.</p>									
<div style="display: flex; justify-content: space-between; padding: 10px;"> <span>Project 674810</span> <span>Page 11 of 20 Pages</span> <span>Exhibit R-2A (PE 0101113F)</span> </div>									

## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE <b>February 2000</b>		
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>			PROJECT <b>674810</b>		
<b>(U) C. Other Program Funding Summary (\$ in Thousands)</b>									
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) Aircraft Procurement (BP1100)				0	22,808	14,513	15,624	1,600	81,384
<b>(U) D. Acquisition Strategy</b> The AMI program will contract with Boeing Wichita for aircraft hardware integration and software development of the Flight Management System and the Stores Management Overlays. Specific vendors will be selected to provide hardware for use during EMD. The Government will contract with these vendors for production hardware to support the aircraft installations.									
<b>(U) E. Schedule Profile</b>									
	<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>		
	1	2	3	4	1	2	3	4	1
(U) Contract Award						X			
(U) Interface Development						X		X	
(U) Software Development						X			
(U) Test Planning						X			X
(U) Group A Design						X		X	
(U) Group A Fabrication								X	X
(U) Trial Install									X
(U) Flight Test									X
(U) Program Office Support						X			

Project 674810
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Exhibit R-2A (PE 0101113F)

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000				
BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT			
07 - Operational System Development				0101113F B-52 SQUADRONS					674810			
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>												
				FY 1999		FY 2000		FY 2001				
(U) Prototype Hardware				0		4,500		0				
(U) Non-recurring Engineering						23,955		28,490				
(U) Ground/Flight Test						0		9,750				
(U) System Program Office Support						1,000		1,000				
(U) Miscellaneous Cuts						-422		-453				
(U) Total				0		29,033		38,787				
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>												
(U) <u>Performing Organizations:</u>												
<u>Contractor or</u>		<u>Contract</u>										
<u>Government</u>		<u>Method/Type</u>		<u>Award or</u>		<u>Performing</u>		<u>Project</u>				
<u>Performing</u>		<u>or Funding</u>		<u>Obligation</u>		<u>Activity</u>		<u>Office</u>				
<u>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>				
<u>Product Development Organizations</u>												
Boeing, McDonnell Defense		TBD		FY00		TBD		27,963		32,727 54,460 115,150		
<u>Support and Management Organizations</u>												
OC-ALC/LH		PMA		Oct 99		0		TBD		1,000 1,000 2,000 4,000		
WR/ALC		AF616		TBD		TBD				30 30 60 120		
HQ ACC/DRPB		AF616		TBD		TBD				30 30 60 120		
<u>Test and Evaluation Organizations</u>												
419 FLTS		Project Order		TBD		TBD		10		5,000 10,000 15,010		
				<u>Total Prior</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 1999</u>		<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development								27,963		32,727	54,460	115,150
Subtotal Support and Management						1,060		1,060		2,120	4,240	
Subtotal Test and Evaluation						10		5,000		10,000	15,010	
Total Project						29,033		38,787		66,580	134,400	
Project 674810												
Page 13 of 20 Pages												
Exhibit R-3 (PE 0101113F)												

## UNCLASSIFIED

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>								DATE <b>February 2000</b>	
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>				PROJECT <b>674875</b>	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
674875      Situational Awareness Defensive Improvement	0	7,956	12,000	17,500	0	0	0	0	71,690
SADI begins as FY00 New Start. As of 1 Jan 00 program underfunded by \$115 million through FY09									
<b>(U)    <u>A. Mission Description</u></b> The existing ALR-20A system provides the Electronic Warfare Officer (EWO) with the capability of simultaneously surveying, detecting, and displaying all radio frequency (RF) transmissions within its frequency range of coverage. It displays the detected signals in a spectrum analyzer like presentation (i.e., in an amplitude versus frequency format) to the EWO on a multi-trace cathode ray tube (CRT). The ALR-20A provides the EWO with two (2) capabilities. First, it is the main receiver used for providing early warning and situational awareness. Second, the analog signals displayed by the ALR-20A are required for the successful employment (i.e., jamming) of the following electronic countermeasures (ECM) systems: ALQ-122/ALQ-16A, ALT-32s, and all ALQ-155(V) systems. The present ALR-20A system was designed in the 1960's and is becoming increasingly unsupportable due to vanishing vendors and obsolete technology. SADI removes and replaces the ALR-20A Panoramic receiver system. Includes Group B System and Group A Integrator Kit. SADI begins as FY00 New Start. As of 1 Jan 00 program underfunded by \$115 million through FY09									
<b>(U)    <u>FY 1999 (\$ in Thousands)</u></b> (U)    \$0                      No Activity (U)    \$0                      Total									
<b>(U)    <u>FY 2000 (\$ in Thousands)</u></b> (U)    \$6,000                  Group A (antennas) NRE, Group B (LRUs) NRE (U)    \$1,000                  Software (U)    \$956                      Program Management (U)    \$7,956                  Total									
<b>(U)    <u>FY 2001 (\$ in Thousands)</u></b> (U)    \$3,000                  Group A kit and NRE (U)    \$3,700                  Group B kit and NRE (U)    \$3,600                  Software (U)    \$1,700                  Program Management (U)    \$12,000                Total									
<div style="display: flex; justify-content: space-between;"> <span>Project 674875</span> <span>Page 14 of 20 Pages</span> <span>Exhibit R-2A (PE 0101113F)</span> </div>									

## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2000																																																																																																																																																													
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<p>(U) <b><u>B. Project Change Summary</u></b>  SADI begins as FY00 New Start. As of 1 Jan 00 program underfunded by \$115 million through FY09</p>																																																																																																																																																																				
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<p>(U) <b><u>D. Acquisition Strategy</u></b>  The present ALR-20A system was designed in the 1960's and is unsupportable due to vanishing vendors and obsolete technology. The SADI program will remove and replace the ALR-20A and ALR-46 RWR. The SADI program will contract with Boeing Wichita for aircraft hardware integration. Specific vendors will be selected to provide hardware for use during EMD. The Government will contract with these vendors for production hardware to support the aircraft installations.</p>																																																																																																																																																																				
<p>(U) <b><u>E. Schedule Profile</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th colspan="4" style="text-align: center;"><u>FY 1999</u></th> <th colspan="4" style="text-align: center;"><u>FY 2000</u></th> <th colspan="4" style="text-align: center;"><u>FY 2001</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Contract Award</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Interface Development</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Test Planning</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Group A Design</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Group A Fabrication</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td>(U) Group B Design</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Group B Fabrication</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td>(U) DT ( 2 Qtr FY 02)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) OT (2 Qtr FY03)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Program Office Support</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) Contract Award							X						(U) Interface Development									X				(U) Test Planning									X				(U) Group A Design									X				(U) Group A Fabrication											X		(U) Group B Design									X				(U) Group B Fabrication											X		(U) DT ( 2 Qtr FY 02)													(U) OT (2 Qtr FY03)													(U) Program Office Support							X					
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000		
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>				PROJECT <b>674875</b>		
(U) <b><u>A. Project Cost Breakdown (\$ in Thousands)</u></b>										
						<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>		
(U)	Hardware						6,000		6,700	
(U)	Software						1,000		3,600	
(U)	Program management						956		1,700	
(U)	Total						7,956		12,000	
(U) <b><u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>										
(U) <b><u>Performing Organizations:</u></b>										
	<u>Contractor or</u>	<u>Contract</u>								
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>					
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>
										<u>Total</u>
	<u>Product Development Organizations</u>									
	Boeing Military Programs,	TBD	Jun 00	TBD			7,430	11,250	44,540	63,220
	Wichita Division									
	<u>Support and Management Organizations</u>									
	OC-ALC/LH	PMA	Jun 00	TBD			500	700	1,134	2,334
	WR/ALC	TBD					10	20	30	60
	HQ ACC/XRA-52	TBD					10	20	30	60
	<u>Test and Evaluation Organizations</u>									
	419 FLTS	TBD					6	10	6,000	6,016
(U) <b><u>Government Furnished Property:</u></b>										
		<u>Contract</u>								
		<u>Method/Type</u>	<u>Award or</u>							
	<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>
										<u>Total</u>
	<u>Product Development Property</u>									
	<u>Support and Management Property</u>									
	<u>Test and Evaluation Property</u>									
Project 674875						Page 16 of 20 Pages		Exhibit R-3 (PE 0101113F)		



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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2000		
BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development		0101113F B-52 SQUADRONS				674875	
<u>Subtotals</u>		<u>Total Prior to FY 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
Subtotal Product Development				7,430	11,250	44,540	63,220
Subtotal Support and Management				520	740	1,194	2,454
Subtotal Test and Evaluation				6	10	6,000	6,016
Total Project				7,956	12,000	51,734	71,690

## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE <b>February 2000</b>																															
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>				PROJECT <b>674876</b>																															
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost																														
674876    B-52 Global Air Traffic Management (GATM)	0	0	0	0	0	9,678	24,141	Continuing	TBD																														
<p>(U) <b><u>A. Mission Description</u></b>            Develop and install integrated Communication, Navigation, Surveillance and Air Traffic Management capability to guarantee unrestricted access to global air traffic operations in response to International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) requirements. Avionics upgrades will result in reduced airspace congestion, increased safety, and significant savings through more efficient flight routes and altitudes. This program is not executable under the current funding. There is significant concurrency in FY05/06 and the production funding is not adequate to modify 76 aircraft.</p> <p>(U) <b><u>FY 1999 (\$ in Thousands)</u></b>            (U) \$0                      No Activity            (U) \$0                      Total</p> <p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b>            (U) \$0                      No Activity            (U) \$0                      Total</p> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b>            (U) \$0                      No Activity            (U) \$0                      Total</p> <p>(U) <b><u>B. Project Change Summary</u></b></p> <p>(U) <b><u>C. Other Program Funding Summary (\$ in Thousands)</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 1999</u> <u>Actual</u></th> <th style="text-align: center;"><u>FY 2000</u> <u>Estimate</u></th> <th style="text-align: center;"><u>FY 2001</u> <u>Estimate</u></th> <th style="text-align: center;"><u>FY 2002</u> <u>Estimate</u></th> <th style="text-align: center;"><u>FY 2003</u> <u>Estimate</u></th> <th style="text-align: center;"><u>FY 2004</u> <u>Estimate</u></th> <th style="text-align: center;"><u>FY 2005</u> <u>Estimate</u></th> <th style="text-align: center;"><u>Cost to</u> <u>Complete</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&amp;E</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Other APPN</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>											<u>FY 1999</u> <u>Actual</u>	<u>FY 2000</u> <u>Estimate</u>	<u>FY 2001</u> <u>Estimate</u>	<u>FY 2002</u> <u>Estimate</u>	<u>FY 2003</u> <u>Estimate</u>	<u>FY 2004</u> <u>Estimate</u>	<u>FY 2005</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	(U) AF RDT&E										(U) Other APPN									
	<u>FY 1999</u> <u>Actual</u>	<u>FY 2000</u> <u>Estimate</u>	<u>FY 2001</u> <u>Estimate</u>	<u>FY 2002</u> <u>Estimate</u>	<u>FY 2003</u> <u>Estimate</u>	<u>FY 2004</u> <u>Estimate</u>	<u>FY 2005</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>																														
(U) AF RDT&E																																							
(U) Other APPN																																							

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>		DATE <b>February 2000</b>																								
BUDGET ACTIVITY <b>07 - Operational System Development</b>	PE NUMBER AND TITLE <b>0101113F B-52 SQUADRONS</b>	PROJECT <b>674876</b>																								
<p>(U) <b><u>D. Acquisition Strategy</u></b>          Develop and install integrated Communication, Navigation, Surveillance and Air Traffic Management capability to guarantee unrestricted access to global air traffic operations in response to International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) requirements. The B-52 GATM program will contract with Boeing Wichita for aircraft hardware integration and software development. Specific vendors will be selected to provide hardware for use during EMD. The Government will contract with these vendors for production hardware to support the aircraft installations. This program is not fully executable under the current funding. There is significant concurrency in FY05/06 and the production funding is not adequate to modify 76 aircraft.</p> <p>(U) <b><u>E. Schedule Profile</u></b></p> <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th colspan="4" style="text-align: center;"><u>FY 1999</u></th> <th colspan="4" style="text-align: center;"><u>FY 2000</u></th> <th colspan="4" style="text-align: center;"><u>FY 2001</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td> </tr> </tbody> </table> <p>(U) Contract Award est 2QTR FY04</p>			<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>				1	2	3	4	1	2	3	4	1	2	3	4
<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>																		
1	2	3	4	1	2	3	4	1	2	3	4															
<div style="display: flex; justify-content: space-between;"> <span>Project 674876</span> <span>Page 19 of 20 Pages</span> <span>Exhibit R-2A (PE 0101113F)</span> </div>																										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2000	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0101113F B-52 SQUADRONS			674876	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>						
				FY 1999	FY 2000	FY 2001
(U)						
(U)	Total					
	<u>Subtotals</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>
	Subtotal Product Development					
	Subtotal Support and Management					
	Subtotal Test and Evaluation					
	Total Project					TBD

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